Data Duel: Navigating Choices with A/B Testing

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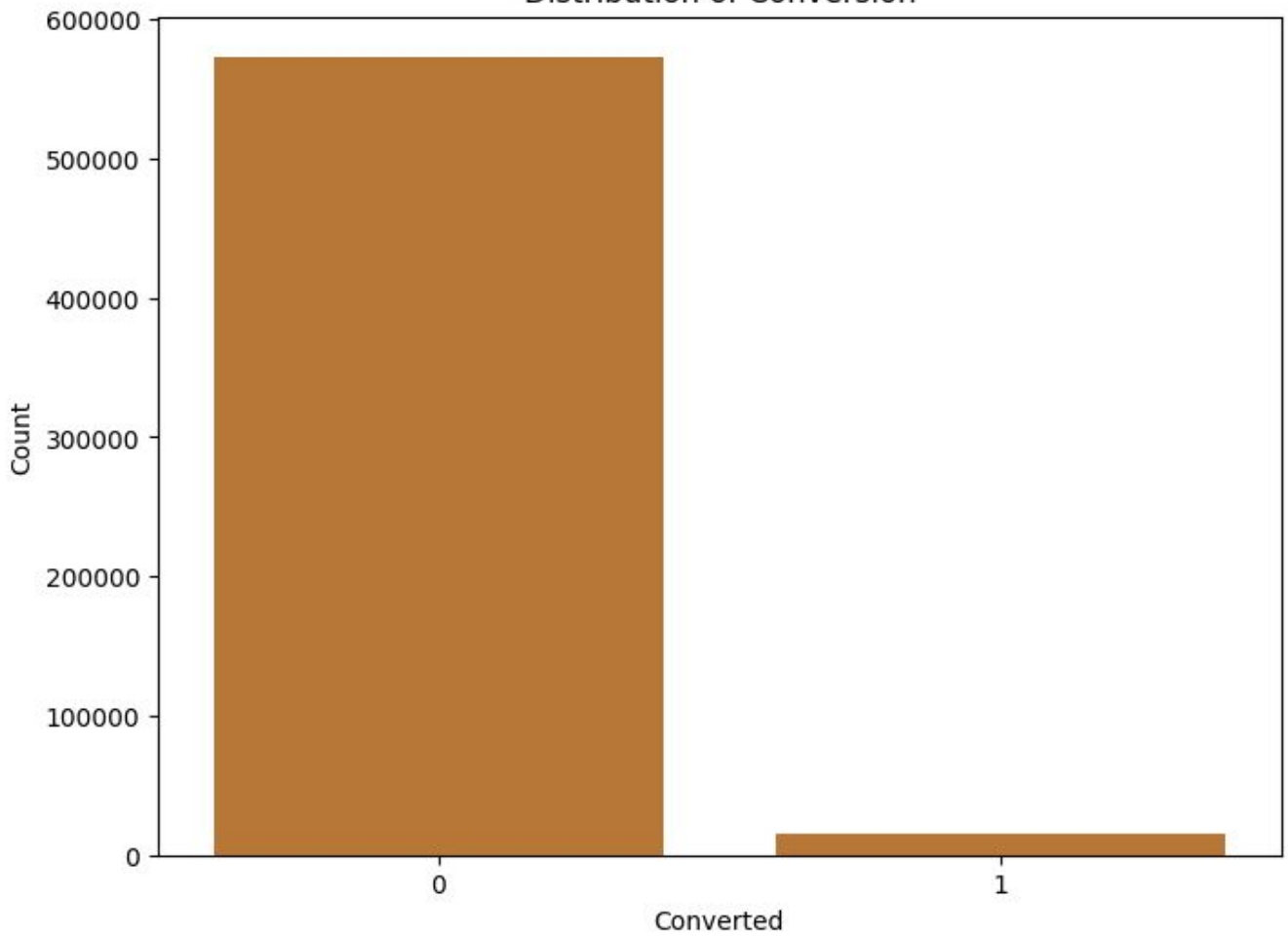
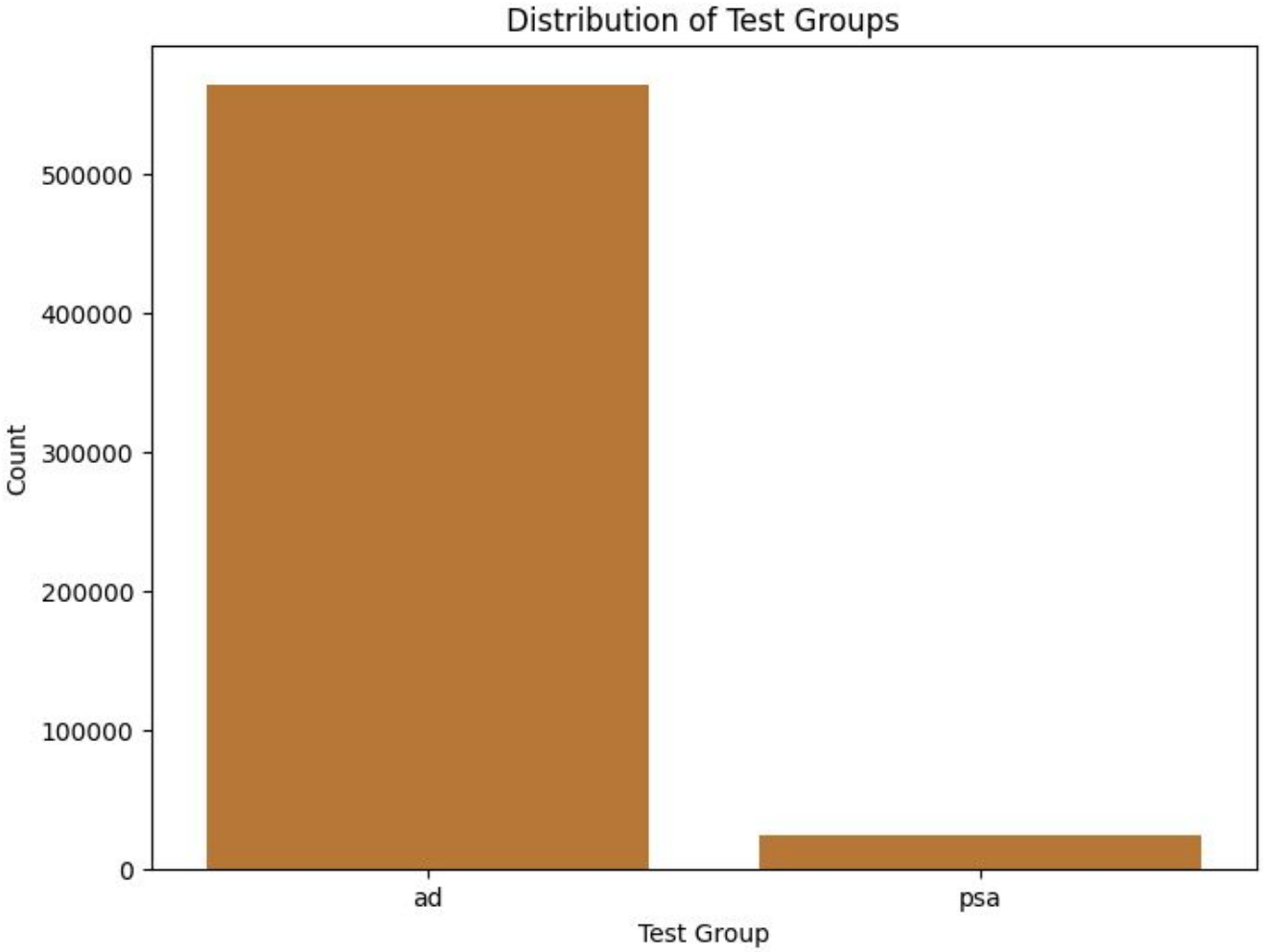
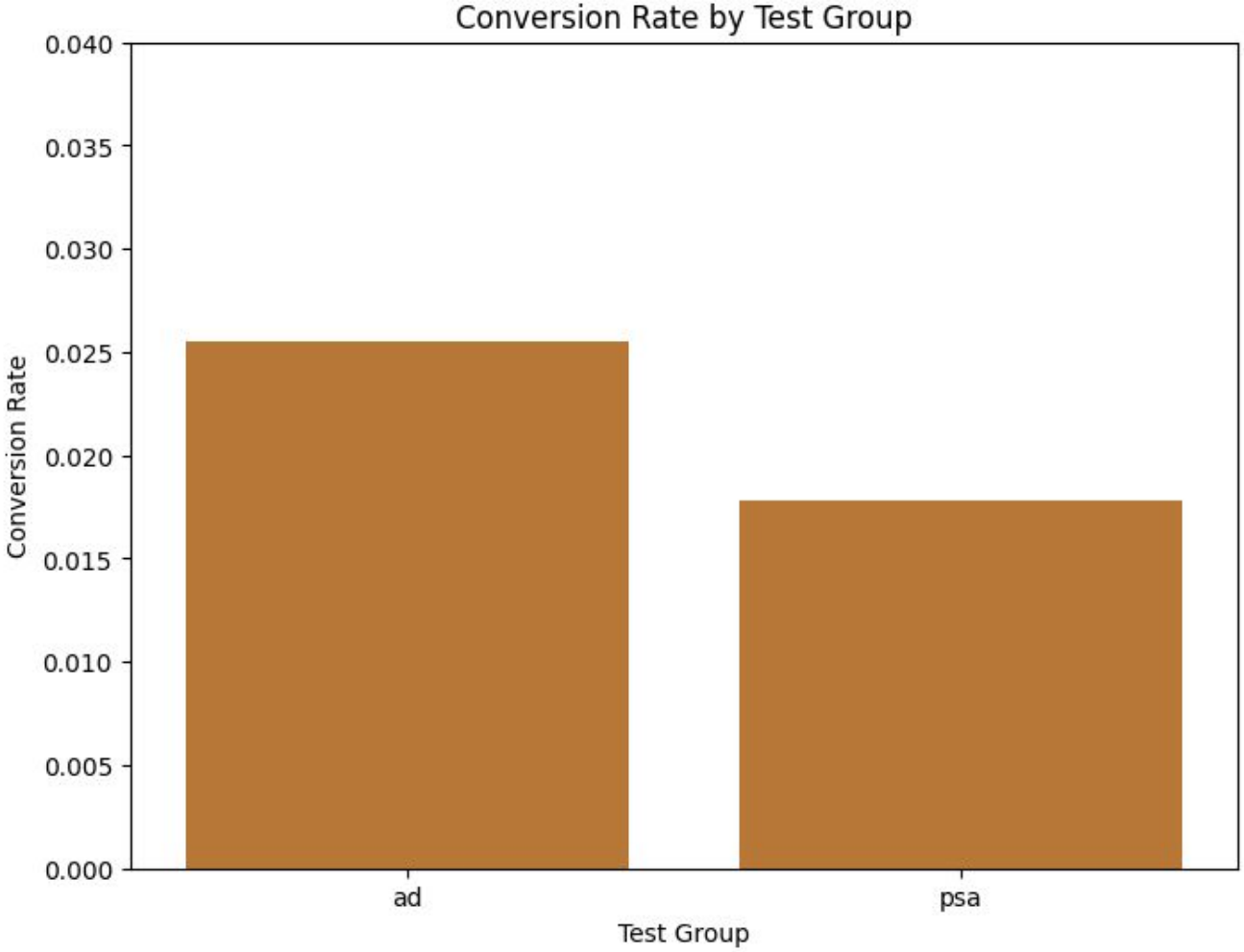
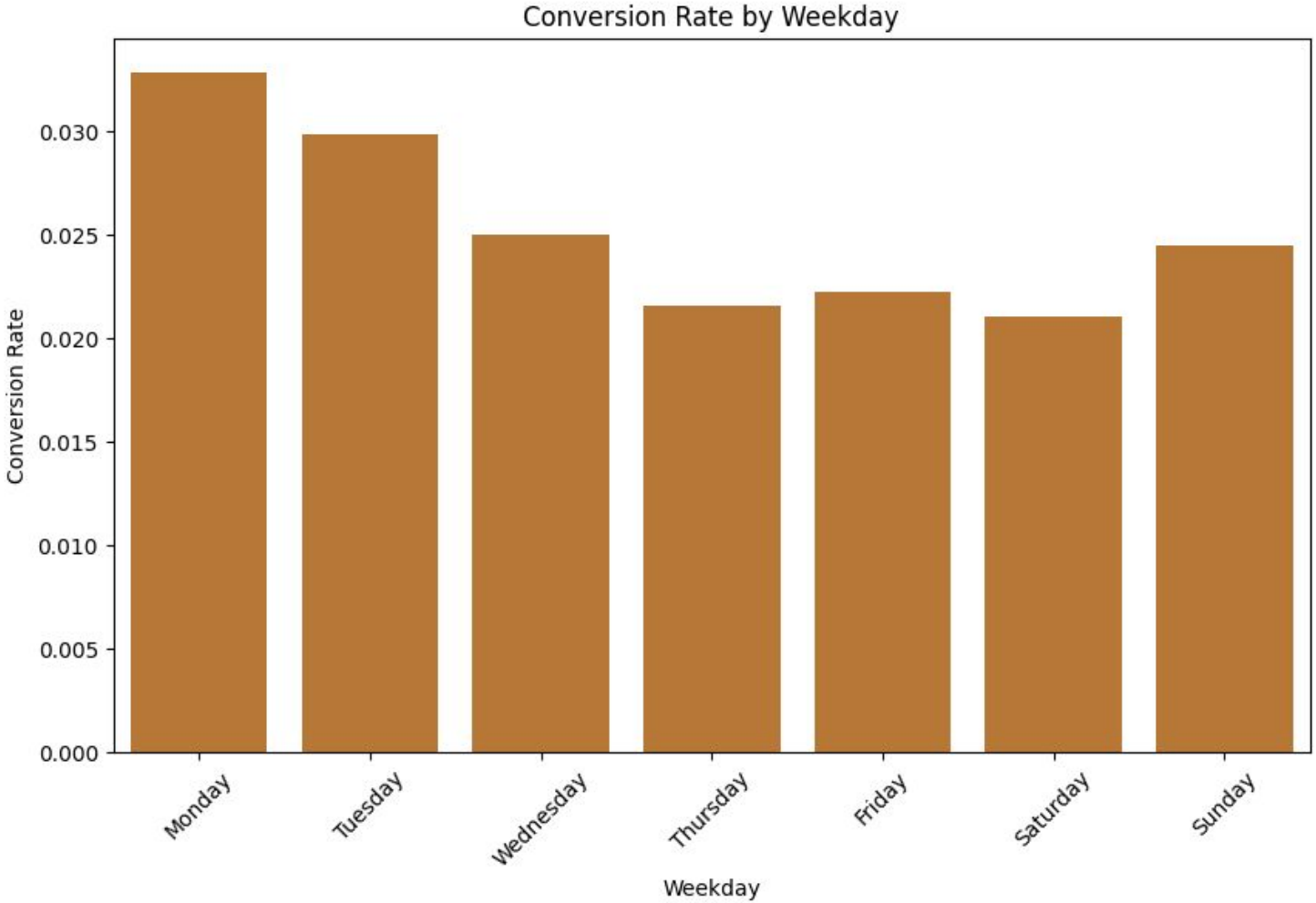
Data Description

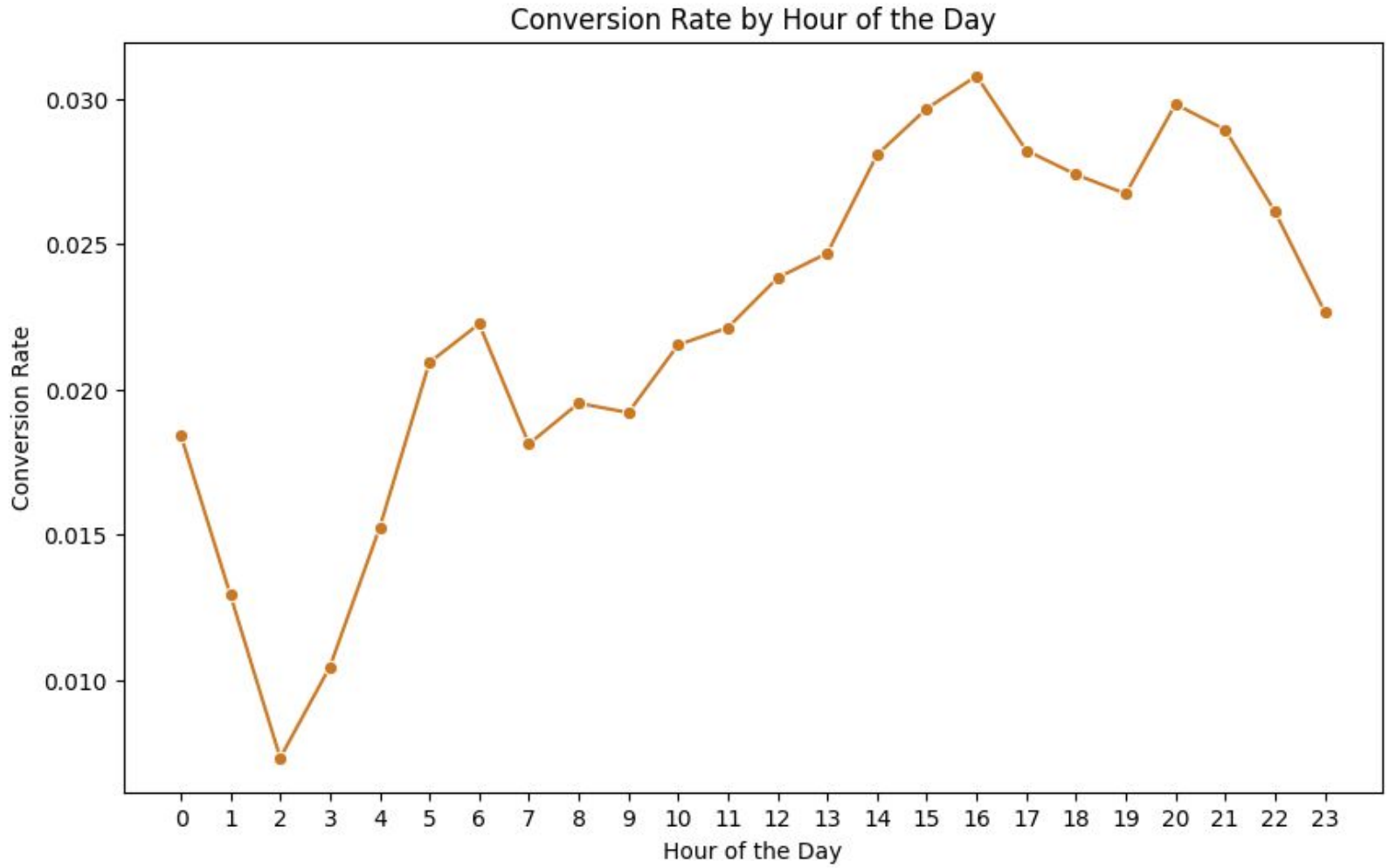
#	user id	test group	converted	total ads	most ads ...	most ads ...
0	1069124	ad	False	130	Monday	20
1	1119715	ad	False	93	Tuesday	22
2	1144181	ad	False	21	Tuesday	18
3	1435133	ad	False	355	Tuesday	10
4	1015700	ad	False	276	Friday	14
5	1137664	ad	False	734	Saturday	10
6	1116205	ad	False	264	Wednesday	13
7	1496843	ad	False	17	Sunday	18
8	1448851	ad	False	21	Tuesday	19
9	1446284	ad	False	142	Monday	14
10	1257223	ad	False	209	Wednesday	11
11	1637531	ad	False	47	Wednesday	13
12	1081965	ad	False	61	Tuesday	20
13	1037215	ad	False	40	Friday	13
14	1535652	ad	False	20	Tuesday	19
15	1461774	ad	True	9	Wednesday	18

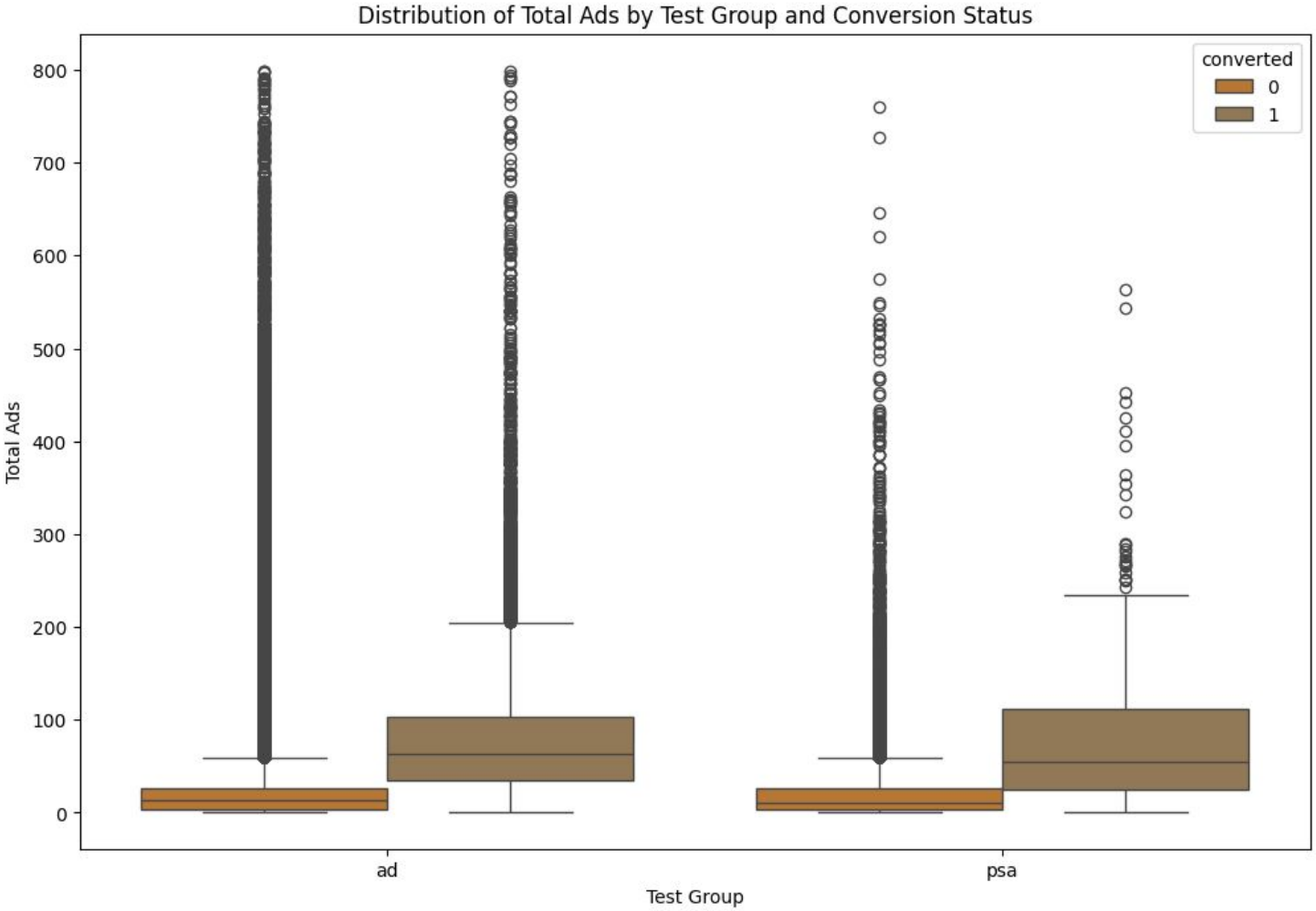

Distribution of Conversion
600000
500000
400000
300000
200000
100000
0
Count
0
1
Converted

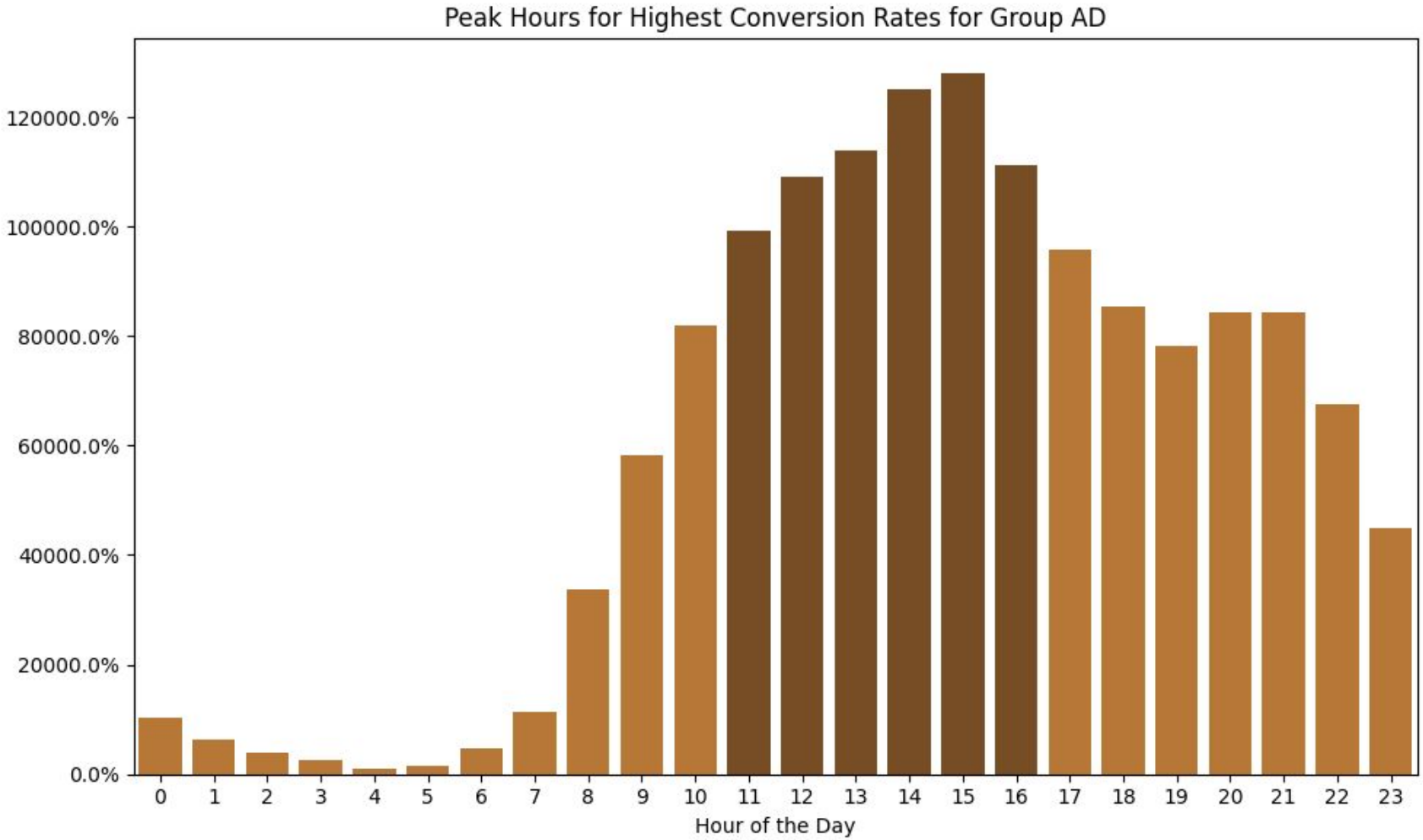

Distribution of Test Groups
Count
500000
400000
300000
200000
100000
0
ad
psa
Test Group

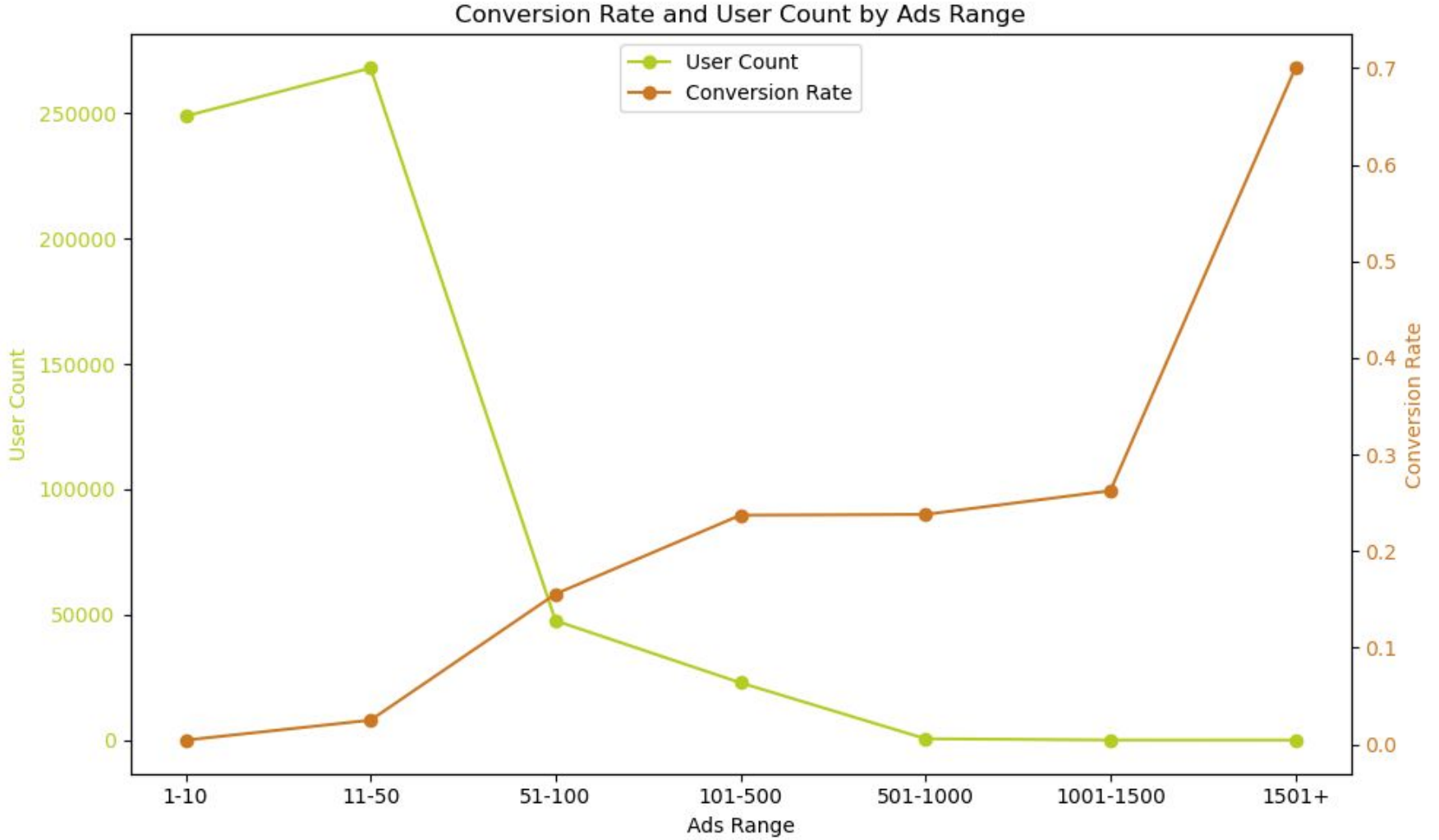

Conversion Rate by Test Group
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
Conversion Rate
ad
psa
Test Group


Conversion Rate by Weekday
Conversion Rate
0.000
0.005
0.010
0.015
0.020
0.025
0.030
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Weekday


Conversion Rate by Hour of the Day
Conversion Rate
0.030
0.025
0.020
0.015
0.010
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Hour of the Day


Distribution of Total Ads by Test Group and Conversion Status
converted
0
1
Total Ads
800
700
600
500
400
300
200
100
0
ad
psa
Test Group


Peak Hours for Highest Conversion Rates for Group AD
120000.0%
100000.0%
80000.0%
60000.0%
40000.0%
20000.0%
0.0%
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Hour of the Day


Conversion Rate and User Count by Ads Range
User Count
Conversion Rate
250000
200000
150000
100000
50000
0
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
User Count
Conversion Rate
1-10
11-50
51-100
101-500
501-1000
1001-1500
1501+
Ads Range

Conclusion

Based on the A/B testing results, the experimental group achieved a significantly higher conversion rate of 2.55% compared to the control group's 1.79%, resulting in a relative increase of 43.01%. The statistical analysis yielded a Z-statistic of -7.36 with a p-value of 0.0000, indicating that the difference in conversion rates is statistically significant. Additionally, the peak hours for conversion were found to be between 11:00am and 4:00pm, suggesting that ads served during those hours tend to be more effective. During this period, frequency can further increase conversion rates.Continuous monitoring and analysis of campaign data will be critical for optimizing performance over time.

Thanks for your attention!